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ALBERT KOEBELE

Word has just come that Albert Koebele died at Waldkirch, Germany, December 28, 1924.

Koebele, then a young man (he was 72 at the time of his death), joined the entomological force of the United States Department of Agriculture in the winter of 1881-82. Professor Riley had found him at a meeting of the Brooklyn Entomological Society and had been much impressed with his skill as collector and preparator. He was sent to Florida and Georgia in the spring of 1882 to work on the possible hibernation of *Alabama argillacea*. In 1883 he went with the late John C. Branner to Brazil, where they stayed four months in the country around Bahia and Pernambuco, studying cotton insects. In 1885 Koebele was transferred to California, where he worked upon various economic insects and settled at Alameda. During the summer and fall of 1888 and the winter of 1888-89 he was in Australia searching for natural enemies of the fluted scale. On this trip his salary was paid by the Department, but his expenses were paid by the Department of State, which had an appropriation for an exhibit at the Melbourne Exposition. As a partial compensation for this expenditure of exposition funds, F. M. Webster was sent at the same time to Australia by the United States Department of Agriculture to make a report to the United States Commission on the agricultural features of the exposition.

During this trip Koebele discovered the famous *Vedalia (Novius) cardinalis* and sent it in living condition to Los Angeles, where it was colonized and acclimatized under the supervision of D. W. Coquillett. This was the first successful experiment in the international handling of natural enemies of destructive insects and at once made Koebele famous.

In 1891 he sailed again for Australia under a California appropriation of \$5,000 to collect parasites and predatory insects, his salary still being paid by the Department of Agriculture. On this trip he sent over a number of beneficial insects from which much was expected, the only very strikingly effective one being the ladybird *Cryptolaemus montrouzieri*.

He resigned from the Department on September 30, 1893, and later was employed by the Sugar Planters' Association of Hawaii and made trips to the Orient and Central America in search of beneficial insects, and is responsible for many importations into Hawaii, some of which proved very beneficial.

About 1912 or 1913 his health failed and he went back to his old home in Germany, expecting later to resume his residence in the United States, but he never recovered, and stayed there an invalid until the time of his death.

Koebele was one of the best collectors ever known. He was a keen observer and a marvelous preparator. He was a quiet, modest man, and an indefatigable worker. His name will always be associated with the pioneer

work in the important subject of natural control, and the story of his first work with the Australian ladybird will be told whenever achievements in economic entomology are discussed.

I hope to prepare a fuller account of his very useful life. -- L. O. H.

STORED PRODUCT INSECT INVESTIGATIONS

E. A. Back, Entomologist, in Charge

The Dried Fruit Laboratory was moved on March 9 from 422 Yale Avenue to 1584 Ferger Avenue, Fresno, Calif.

On February 25 J. C. Hamlin returned to the Dried Fruit Laboratory at Fresno, Calif., from a brief visit to Houston, Tex. Through the kindness of Dr. W. D. Hunter, Mr. Hamlin familiarized himself with the successful developments in heat sterilization of cotton seed which have been effected under Doctor Hunter's direction as a safeguard against the pink bollworm. It is thought that some of the machines in use in Texas may provide the basis for modifications which would make feasible the heat treatment of certain dried fruits.

During the month S. E. McClendon visited St. Simons and Stapeloe Islands, off the Georgia Coast, for the purpose of continuing observations on the status of the corn weevil. The establishment of the broad-nosed grain weevil on St. Simons Island affords an opportunity to study its capacity as a corn pest in comparison with that of the rice weevil. By the summer and fall of 1923 this lesser-known pest had become more abundant and destructive to corn than the rice weevil, both in the field and in the crib. Observations during 1924, made after the cold of the preceding winter, indicated that the broad-nosed grain weevil is less resistant to cold than the rice weevil.

On March 10 A. O. Larson, of the Bean Weevil Investigations at Alhambra, Calif., met with about thirty members of the Farm Bureau of Chino to review the results of the 1924 field control work of the Bureau and to plan for the 1925 campaign. A Bean Weevil Committee was appointed to co-operate with Mr. Larson, and money was appropriated for posters which have since been printed. The Farm Bureau commended the work done by the Bureau of Entomology in San Bernardino County, and attributes the very marked decrease in bean weevil infestation to the control work of the Bureau carried on under the direction of Messrs. Larson and Fisher.

Curtis Benton, of Fresno, Calif., has been granted a two months' leave of absence. His address during April and May is Macomb, Ill.

On March 21 Dr. R. T. Cotton went to Kansas City to represent the Bureau at a field demonstration on a large scale staged by the United States Industrial Chemical Company, of Baltimore. This company is the only

one at present offering the public the new fumigant, ethyl acetate-carbon tetrachloride mixture. Dr. Cotton has reported that the grain interests appear to be very well satisfied with the results of the demonstrations already conducted so far as they concern toxicity to insects, but criticize the odor left on the grain.

C. K. Fisher, of the Alhambra, Calif., Laboratory, is making arrangements to go to Riverside to take graduate work in the University of California.

FRUIT INSECT INVESTIGATIONS

A. L. Quaintance, Senior Entomologist, in Charge

H. S. Swingle, a graduate of the Ohio State University, has been appointed Junior Entomologist and assigned to duty at Fort Valley, Ga., in connection with peach insect investigations.

Oliver I. Snapp, in charge of peach insect investigations at Fort Valley, Ga., reports that the first airplane dusting of a commercial peach orchard for the control of an insect pest took place at Montezuma, Ga., March 23, 1925, when, in one hour and fifty-five minutes, 10,000 peach trees were dusted with a mixture of arsenate of lead and hydrated lime. The recorded time included that spent in making trips to the landing field to refill the hopper, etc. A thousand acres of peach trees will be treated during the season by airplane in Georgia under the supervision of the Fort Valley laboratory of the Bureau, in order to obtain data on the results, cost of operation, etc.

For several months O. I. Snapp, of the Ft. Valley, Ga., laboratory, in cooperation with B. R. Coad and E. Johnson, of the Tallulah, La., boll weevil laboratory, has been giving attention to the perfection of the technique for using airplanes in dusting peach trees at Ft. Valley. This work has involved the adjustment of the feeding mechanism of the planes so that they would evenly distribute the heavy dust used on peach.

The activity of the oriental peach moth has been resumed in the South. The first spring pupation took place on February 25, and the first adult emerged on March 8.

B. A. Porter, in charge of the Bureau Laboratory at Vincennes, Ind., attended the annual conference of the North Central States entomologists at Lafayette, Ind. March 5 and 6. A very interesting and profitable discussion was held dealing with the various insect problems common to this group of States.

Leslie Pierce, of the Bureau of Plant Industry, has been transferred from Bentonville, Ark., to the Vincennes laboratory, where, in co-operation with the Bureau of Entomology, he will work on the fruit disease phases of orchard spraying problems.

CEREAL AND FORAGE INSECT INVESTIGATIONS

G. A. Dean, Senior Entomologist, in Charge

Mrs. Frances Marie Jones has received an appointment as under scientific helper, effective April 1, 1925, for duty at Tempe, Ariz. Mrs. Jones has served in a temporary capacity at that station for some months.

Charles S. Anderson, a skilled preparator, has accepted a temporary appointment for duty at Arlington, Mass. He will give his attention to preparation of material for use in the quarantine and control campaigns now being carried on in the infested territories, especially of the Middle West. Mr. Anderson reported for duty March 16.

L. H. Worthley is conducting a clean-up campaign against the European corn borer in western Long Island and eastern Staten Island, where isolated colonies of the insect have been discovered. The methods followed consist principally in burning over the infested areas by the use of specially designated burners and fuel oil. Good progress has been made in this work, as the weather has been very favorable.

F. W. Poos, who has been taking graduate work at the Ohio State University, returned to his place of duty at Sandusky, Ohio, March 16.

D. J. Caffrey, A. F. Satterthwait, W. H. Larrimer, H. R. Painter, and W. B. Noble attended the conference of North Central States entomologists held at Lafayette, Ind., on March 5 and 6. They report very profitable results.

M. C. Lane, in charge of the wireworm work at Toppenish, Wash., has recently recovered from a severe illness, contracted shortly after his return from Washington.

V. L. Wildermuth and E. E. Russell visited the Imperial Valley during the week of March 23 to observe the condition of insect infestation in the alfalfa of that region. Mr. Wildermuth also visited Yuma, where an experiment on a large scale in the control of the alfalfa-seed chalcis fly is in progress. The office equipment at the latter place, which was destroyed in a recent fire, has been replaced, and E. E. Russell, in charge of the work, is located in the City Hall.

TRUCK-CROP INSECT INVESTIGATIONS

J. E. Graf, Entomologist, in Charge

J. E. Graf left Washington Thursday, March 26, to visit various field stations of this office.

Rodney Cecil, Junior Entomologist, who took special graduate work at Iowa State University, has returned to Birmingham, Ala., and will assist Mr. Howard in the investigation of the Mexican bean beetle.

Walter Carter, formerly instructor in entomology at the University of Minnesota, has been appointed Assistant Entomologist, and will be located at Toppenish, Wash., where he will conduct investigations on the sugar-beet leafhopper, with especial reference to ecology and biological research.

Messrs. Campbell and Dudley report that the pea aphid is becoming more abundant as the season advances in the San Jose Valley of California, and work has already commenced in testing the aphidozer and the self-mixing nicotine dust machine.

K. L. Cockerham, Associate Entomologist, in charge of sweet-potato weevil work in Mississippi and Alabama, reports that Inspector Caldwell of Alabama has located a farm infested with the sweet-potato weevil in Baldwin County, Ala. Every possible step has been taken to eradicate this infestation, and a close inspection is being made of surrounding farms to determine its extent.

Mr. Cockerham also reports that the spring clean-up work in Hancock and Pearl River Counties, Miss., is progressing very favorably, and closer cooperation is being obtained from the growers this season than in any season in the past.

FOREST INSECT INVESTIGATIONS

F. C. Craighead, Entomologist, in Charge

Dr. Craighead spent several days during the latter part of March at the Appalachian Forest Experiment Station, Asheville, N. C., discussing plans for cooperative work for the coming summer. It is planned to develop a cooperative field station in which the Bureau of Entomology will undertake two major projects; one an investigation of the destructive pine insects, and another entailing a study of insects injurious to oak reproduction.

The Office of the Consulate General, Constantinople, Turkey, reports on February 28, 1925, that the Turkish lead cable borer (Sinoxylon

sexdentatum Oliv.) during the last year caused breaks in service wires in and near Constantinople. The insects bore into any part of the cable, whether near the hangers or not, and polished surfaces as well as rough are attacked. "Bonita" suspension rings are of no avail. It has been necessary to repair cables seven to eight times in a run of fifty meters. The areas particularly affected are as follows in the order of density of fault:

1. Both shores of the Golden Horn.
2. The Asiatic shore of the Bosphorus for a distance of about 8 kilometers from Cartal to Bostandjik.
3. The European shore of the Bosphorus for a distance of about 10 kilometers from Bebek north.
4. The North shore of the Marmora for a distance of 9 kilometers near Makrikeuy and San Stefano.

William Middleton, of this office, recently visited the Taylor estate near Trevilians, Va., taking down a number of cages of elm leaf-beetles parasitized to a considerable extent by the dipteran Erynnia nitida R. D., received from Dr. W. R. Thompson, of Hyeres, France. With this material it is proposed to establish the parasite Erynnia nitida in this country.

J. C. Evenden, of the Coeur d'Alene, Idaho, field station, prepared a series of five lectures on forest entomology, and gave them to the forestry students and rangers attending the winter short course at the University of Idaho. Mr. Evenden also attended the Ranger Meeting of the Clearwater National Forest on March 30, where he gave an illustrated talk on forest entomology. On March 20 Mr. Evenden spoke before the Rotary Club of Coeur d'Alene on the same subject.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS

J. L. Webb, Associate Entomologist, Acting in Charge

S. E. Crumb, of the Tobacco Insect Station at Clarksville, Tenn., spent about two weeks in Washington for the purpose of studying cutworm material in the Museum.

F. C. Bishop was in Washington March 26 and 27 for conference with the Bureau of Chemistry in regard to cooperative projects with that Bureau.

By an oversight no mention was made in the February number of the Monthly Letter of the Appointment of Dr. J. W. Folsom for duty at the Boll Weevil Field Station, Tallulah, La. Doctor Folsom is to be the principal assistant at that station.

Wm. S. Cook has joined the staff of workers at the Tallulah laboratory, his work being an investigation of the adhesion of insecticidal dusts to different varieties of the cotton plant.

K. P. Ewing and A. C. Johnson, of the Federal Horticultural Board, have been transferred to this Bureau, and are engaged in investigations of the cotton hopper at Port Lavaca, Tex., under the direction of Dr. W. D. Hunter.

T. P. Cassidy has returned to the Bureau after temporary assignment to the Federal Horticultural Board, and has been detailed to work on the Arizona weevil problem. His investigations will be conducted in the vicinity of Tucson, Ariz.

BEE CULTURE INVESTIGATIONS

James I. Hambleton, Apiculturist, in Charge

A. C. Tate, of the Emery Scale Company, Conn., was at the Laboratory on March 10, making adjustments on the self-recording scale which his company recently manufactured for this Office.

Jas. I. Hambleton was at Lewes, Del., from March 24 to 26 for the purpose of completing arrangements for the temporary field station to be established there this summer.

Through the cooperation of H. L. Kelly, a local beekeeper, in permitting the use of his apiary, A. P. Sturtevant has undertaken some control measures against American foulbrood under conditions found in commercial apiaries.

TAXONOMIC INVESTIGATIONS

S. A. Rohwer, Entomologist, in Charge

H. L. Viereck, of the Entomological Division, Department of Agriculture of Canada, visited Washington during the month, and spent a short time in the Section of Insects looking over some specimens. Mr. Viereck is on his way to England to spend several weeks studying types in the British Museum.

From the highly reputed French entomologist, Dr. L. Falcoz, Dr. Böving has recently received a letter in which the writer inquired in great detail about the terminology used by the members of the Bureau of Entomology in their technical descriptions of coleopterous larvae. This terminology, with a single change, is the one elaborated by Dr. A. D. Hopkins in his paper on the genus *Dendroctonus* (Technical Series 17, Pt. I, Bureau of Entomology, 1909). Since its first appearance it has been adopted not only by many of the younger American and European entomolo-

gists, especially in England, France, and Denmark, but in the latter countries also by some of the most prominent representatives of the older generation. Thus, P. de Peyerimhoff, in France, has changed his original terminology to conform with the one applied by the Bureau of Entomology, and also considers many more structures than he formerly did, describing them in the same sequence as has been followed in our publications. He selects for figuring the same parts that we do, orienting them in the same direction on the plates, with mouth parts and head upwards, habitus-figures of larvae with head to the left, etc.

Paul Siggers, formerly plant pathologist of the United Fruit Company at Costa Rica, recently visited the Section of Insects.

Henry Jory of Lisbon, Portugal, visited the Division of Insects on his way from Florida to Germany. Mr. Jory is engaged in handling insecticides and insecticide machinery.

R. A. Cushman has devoted part of the month of March to a continuation of his studies of parasites of the pine tip moth. Mr. Cushman is doing field work in the vicinity of Washington, with temporary headquarters at East Falls Church. This work is a continuation of study begun last year in an effort to determine whether it is practicable to introduce some of the native parasites into the Nebraska National Forest at Halsey.

Dr. John R. Johnson, Chief of the Research Department of the United Fruit Company, visited Washington during the month of March and spent some time in the Section of Insects, consulting with the Bureau specialists.

H. D. Millender, of the Federal Horticultural Board, stationed at Houston, Tex., recently visited the Division of Insects, accompanied by his bride.

LIBRARY

Mabel Colcord, Librarian

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